



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,009	09/30/2003	Chien-Hsin Lee	INTCP001	4849
<div>45460 7590 09/03/2008</div> <div>JUNG-HUA KUO ATTORNEY AT LAW</div> <div>C/OINTELLEVATE</div> <div>P. O. BOX 52050</div> <div>MINNEAPOLIS, MN 55402</div>				
<div>EXAMINER</div> <div>GREY, CHRISTOPHER P</div>				
<div>ART UNIT PAPER NUMBER</div> <div>2616</div>				
<div>MAIL DATE DELIVERY MODE</div> <div>09/03/2008 PAPER</div>				

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/675,009

Applicant(s)

LEE ET AL.

Examiner

CHRISTOPHER P. GREY

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/19/08.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-22 and 24-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-22 and 24-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-5, 7-22 and 24-26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Specifically, claim 1 recites , "transmitted with best effort service without dropping the out of profile packet" as can be seen in lines 10-11.

The specification does not specifically disclose that a best effort service is achieved without dropping of the data. The specification only states that out of profile data can be provided with best effort service and/or dropped as recited on page 4, line 16-17. It is understood that best effort service does not automatically drop the packets of data, but may drop the data in the event of extreme congestion, which is different from providing best effort service without dropping packets as recited in the claim.

Refer to the description above for the rejection of claims 2-26.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 4, 5, 7, 8, 12, 15, 16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Le Gouriellec et al. (US 2003/0112756), hereinafter referred to as Le Gouriellec and Agrawal et al. (US 2003/0081546), hereinafter referred to as Agrawal.

Regarding Claim 1, Le Gouriellec discloses classifying (**Para 0031 teaches a classifier for classifying**) each received packet in an IP/Ethernet (**Para 0024 discusses Ethernet**) network into one of a plurality of quality of service (QoS) groups (**Para 0032, where in profile and out of profile are 2 groups**) using information in a header of the packet (**Para 0031**);

measuring and checking a traffic rate profile of the received packet against a corresponding service level agreement (**Para 0032, meter checks traffic profiles..**);

marking the packet as one of an in profile packet and an out of profile packet (**page 3, Para 0032, identifies packets as in-profile or out of profile, and Para 0033, marker marks packet**);

a CAR packet is an in profile packet if the CAR packet is within the corresponding SLA (**Para 0037, all traffic within eh CR is left unmarked**) so that the

CAR a packet receives congestion free service (**Para 0039, unmarked traffic is protected even when congestion is encountered**);

and wherein a CAR packet is marked as an out of profile packet if the CAR packet exceeds the SLA (**Para 0037, all traffic above the CR but below the CR+ER is marked to be dropped in case of congestion**) and is one of provided with the best effort services (**Para 0039, causing all marked packets to be dropped, where best effort service is defined as performing services where there is no guarantee, hence dropping the marked packets is equivalent to there being no guarantee, therefore dropping packets is equivalent to best effort services**);

performing packet buffer memory reservation to guarantee memory space for an in profile CAR packets (**Para 0025, always available due to end to end bandwidth reservation in the queues**).

Le Gouriellec does not specifically disclose without dropping the out of profile packet.

Agrawal discloses without dropping (**Para 0059 and 0064, where out of profile traffic is marked down in class, where the traffic may be marked down to a best effort class as seen in Para 0056. Also, given that traffic is out of profile, the data may be dropped or marked down according to Para 0064**) the out of profile packet (**Para 0057 notice the policer identifies out of profile packets**).

It would have been obvious to one of the ordinary skill in the art at the time of the invention was disclosed to modify the queuing mechanism as disclosed by Le

Gouriellec, as taught by Agrawal, since stated in para0001 that such a modification will assist in controlling the traffic congestion.

Regarding Claim 4. Le Gouriellec discloses wherein said measuring and checking is via a token bucket model token (**Para 0032, token bucket meter**).

Regarding Claim 5. Le Gouriellec discloses a meter (fig 2, 44), which is a logical device (**Para 0030, logical device equivalent to hardware**).

Regarding Claim 7. Le Gouriellec discloses wherein said measuring and checking facilities in controlling CAR packets (**Para 0025 discusses committed rate traffic**), input rate limiting packets and output rate limiting packets (**Para 0025, ER traffic indicative of input and output rate packets and Para 0034 discloses traffic shaping, indicative of input and output rate packets**).

Regarding Claim 8. Le Gouriellec discloses wherein IRL and ORL in profile packets receive best effort service (**Para 0037, all traffic above the CR but below CR +ER is marked to be dropped in case of congestion**) and wherein IRL and ORL out of profile packets are dropped (**Para 0038, traffic over CR + ER is discarded**).

Regarding Claim 12. Le Gouriellec discloses a control pipe (**see fig 2**) configured to classifying (**Para 0031 teaches a classifier for classifying**) each received packet in an IP/Ethernet (**Para 0024 discusses Ethernet**) network into one of a plurality of quality of service (QoS) groups using information in a header of the packet (**Para 0031**).

Le Gouriellec discloses the control pipe being further configured for measuring and checking a traffic rate profile of the received packet against a corresponding service level agreement (**Para 0032, meter checks traffic profiles..**).

Le Gouriellec discloses marking the packet as one of an in profile packet and an out of profile packet (**page 3, Para 0032, identifies packets as in-profile or out of profile, and Para 0033, marker marks packet**).

Le Gouriellec discloses a transmit queue in communication with the control pipe (**fig 5, 106, queue**).

Le Gouriellec discloses performing packet buffer memory reservation to guarantee memory space for an in profile CAR packets (**Para 0025, always available due to end to end bandwidth reservation in the queues**).

Le Gouriellec does not specifically disclose without dropping the out of profile packet.

Agrawal discloses without dropping (**Para 0059 and 0064, where out of profile traffic is marked down in class, where the traffic may be marked down to a best effort class as seen in Para 0056. Also, given that traffic is out of profile, the data may be dropped or marked down according to Para 0064**) the out of profile packet (**Para 0057 notice the policer identifies out of profile packets**).

It would have been obvious to one of the ordinary skill in the art at the time of the invention was disclosed to modify the queuing mechanism as disclosed by Le Gouriellec, as taught by Agrawal, since stated in para0001 that such a modification will assist in controlling the traffic congestion.

Regarding Claim 15. Le Gouriellec discloses wherein said measuring and checking is via a token bucket model token (**Para 0032, token bucket meter**). Le Gouriellec discloses wherein said measuring and checking facilities in controlling CAR

packets (**Para 0025 discusses committed rate traffic**), input rate limiting packets and output rate limiting packets (**Para 0025, ER traffic indicative of input and output rate packets and Para 0034 discloses traffic shaping, indicative of input and output rate packets**).

Regarding Claim 16. Le Gouriellec discloses a meter (fig 2, 44), which is a logical device (**Para 0030, logical device equivalent to hardware**).

Regarding Claim 17. Le Gouriellec discloses wherein IRL and ORL in profile packets receive best effort service (**Para 0037, all traffic above the CR but below CR +ER is marked to be dropped in case of congestion**) and wherein IRL and ORL out of profile packets are dropped (**Para 0038, traffic over CR + ER is discarded**).

Regarding claim 18. Le Gouriellec discloses and wherein a CAR packet is marked as an out of profile packet if the CAR packet exceeds the SLA (**Para 0037, all traffic above the CR but below the CR+ER is marked to be dropped in case of congestion**) and is one of provided with the best effort services and dropped (**Para 0039, causing all marked packets to be dropped, where best effort service is defined as performing services where there is no guarantee, hence dropping the marked packets is equivalent to there being no guarantee, therefore dropping packets is equivalent to best effort services**).

5. Claims 9, 10, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gouriellec et al. (US 2003/0112756) and Agrawal et al. (US 2003/0081546), hereinafter referred to as Agrawal as applied to the claims above, and further in view of Duncan et al. (US 7237012), hereinafter referred to as Duncan

Regarding Claim 9. The combined teachings of Le Gouriellec and Agrawal do not specifically disclose wherein said performing buffer memory reservation is via static memory reservation wherein memory space is statically partitioned between CAR packets and non-CAR packets.

Duncan discloses wherein said performing buffer memory reservation is via static memory reservation wherein memory space is statically **partitioned (Col 7 lines 14-16, static portion and memory area)** between CAR packets and non-CAR packets (**Le Gouriellec teaches car and non car packet data being stored in a BW reservation scheme, see Para 0025**).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the invention disclosed by the combined teachings of Le Gouriellec and Agrawal as taught by Duncan, since stated in Col 2 lines 17-19 that such a modification will allow it to be easier to detect QOS classifiers.

Regarding Claim 10. The combined teachings of Le Gouriellec and Agrawal do not specifically disclose wherein said performing buffer memory reservation is via dynamic memory reservation, wherein packet buffer memory for non-CAR packets is dynamically allocated, and wherein a push out mechanism is employed for non CAR packets.

Duncan discloses wherein said performing buffer memory reservation is via dynamic memory reservation (**Le Gouriellec, Para 0025, end to end bandwidth reservation in the queues**), wherein packet buffer memory for non-CAR packets is dynamically allocated (**Col 7 lines 18-20, dynamic portion for storing SLA data**), and wherein a push out mechanism is employed for non CAR packets (**wherein a drop packet mechanism is applied to non-committed rate packets Para 0028, discards traffic**).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the invention disclosed by the combined teachings of Le Gouriellec and Agrawal as taught by Duncan, since stated in Col 2 lines 17-19 that such a modification will allow it to be easier to detect QOS classifiers.

Regarding Claim 19. The combined teachings of Le Gouriellec and Agrawal does not specifically disclose wherein said performing buffer memory reservation is via static memory reservation wherein memory space is statically partitioned between CAR packets and non-CAR packets.

Duncan discloses wherein said performing buffer memory reservation is via static memory reservation wherein memory space is statically **partitioned (Col 7 lines 14-16, static portion and memory area)** between CAR packets and non-CAR packets (**Le Gouriellec teaches car and non car packet data being stored in a BW reservation scheme, see Para 0025**).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the invention disclosed by the combined teachings of Le Gouriellec

and Agrawal as taught by Duncan, since stated in Col 2 lines 17-19 that such a modification will allow it to be easier to detect QOS classifiers.

Regarding Claim 20. The combined teachings of Le Gouriellec and Agrawal do not specifically disclose wherein said performing buffer memory reservation is via dynamic memory reservation, wherein packet buffer memory for non-CAR packets is dynamically allocated, and wherein a push out mechanism is employed for non CAR packets.

Duncan discloses wherein said performing buffer memory reservation is via dynamic memory reservation (**Le Gouriellec, Para 0025, end to end bandwidth reservation in the queues**), wherein packet buffer memory for non-CAR packets is dynamically allocated (**Col 7 lines 18-20, dynamic portion for storing SLA data**), and wherein a push out mechanism is employed for non CAR packets (**wherein a drop packet mechanism is applied to non-committed rate packets Para 0028, discards traffic**).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the invention disclosed by the combined teachings of Le Gouriellec and Agrawal as taught by Duncan, since stated in Col 2 lines 17-19 that such a modification will allow it to be easier to detect QOS classifiers.

6. Claims 2, 3, 13, 14, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gouriellec et al. (US 2003/0112756) and Agrawal et al. (US 2003/0081546), hereinafter referred to as Agrawal as applied to the claims above, and further in view of Li et al. (US 20070086337), hereinafter referred to as Li.

Regarding Claim 2, Le Gouriellec discloses a control pipe (shown in fig 1 and Para 0025, node queues along the LSP pipe).

The combined teachings of Le Gouriellec and Agrawal do not specifically disclose wherein said classifying of the packet is performed by a control pipe via a content addressable memory.

Li discloses classification of a packet being performed via a content addressable memory (Para 0074)

It would have been obvious to one of the ordinary skill in the art at the time of the invention to associate the content addressable memory disclosed by Li, with the classifier disclosed by the combined teachings of Le Gouriellec and Agrawal. The motivation for this combination is to perform classification and look ups.

Regarding Claim 3, The combined teachings of Le Gouriellec, Agrawal and Li disclose a CAM for classification.

The combined teachings of Le Gouriellec and Li do not specifically disclose a multi-bank ternary CAM.

It would have been obvious to one of the ordinary skill in the art that the CAM disclosed by the combined teachings of Le Gouriellec, Agrawal and Li is not limited to a

basic CAM, and may be specified such as that of a multi-bank ternary CAM depending on a designer's preference.

Regarding Claim 13. Le Gouriellec discloses a control pipe (shown in fig 1 and Para 0025, node queues along the LSP pipe).

The combined teachings of Le Gouriellec and Agrawal do not specifically disclose wherein said classifying of the packet is performed by a control pipe via a content addressable memory.

Li discloses classification of a packet being performed via a content addressable memory (Para 0074)

It would have been obvious to one of the ordinary skill in the art at the time of the invention to associate the content addressable memory disclosed by Li, with the classifier disclosed by the combined teachings of Le Gouriellec and Agrawal. The motivation for this combination is to perform classification and look ups.

Regarding Claim 14. The combined teachings of Le Gouriellec, Agrawal and Li disclose a CAM for classification.

The combined teachings of Le Gouriellec and Li do not specifically disclose a multi-bank ternary CAM.

It would have been obvious to one of the ordinary skill in the art that the CAM disclosed by the combined teachings of Le Gouriellec, Agrawal and Li is not limited to a basic CAM, and may be specified such as that of a multi-bank ternary CAM depending on a designer's preference.

Regarding claim 25, Le Gouriellec discloses a control pipe (shown in fig 1 and Para 0025, node queues along the LSP pipe).

wherein control pipe employs a token bucket model (Para 0032, token bucket meter) to measure and check the traffic transmission rate profile of the received packet (Para 0032, the meter check the traffic flow properties against traffic profiles), the token bucket model facilitates in controlling CAR packets (Para 0025 discusses committed rate traffic), input rate limiting (IRL) packets and output rate limiting (ORL) packets (the specification does not define IRL and ORL packets, so these terms are interpreted within its broadest scope as simply packets),

wherein IRL and ORL in profile packets receive best effort service (Para 0037, all traffic above the CR but below CR +ER is marked to be dropped in case of congestion) and wherein IRL and ORL out of profile packets are dropped (Para 0038, traffic over CR + ER is discarded).

The combined teachings of Le Gouriellec and Agrawal do not specifically disclose wherein said classifying of the packet is performed by a control pipe via a content addressable memory and wherein the CAM comprises a multi bank ternary to provide packet classification.

Li discloses classification of a packet being performed via a content addressable memory (Para 0074).

wherein the CAM comprises a multi-bank ternary CAM (T-CAM) to provide packet classification (It would have been obvious to one of the ordinary skill in the art that the CAM disclosed by the combined teachings of Le Gouriellec, Agrawal

and Li is not limited to a basic CAM, and may be specified such as that of a multi-bank ternary CAM depending on a designer's preference)

It would have been obvious to one of ordinary skill in the art at the time of the invention to associate the content addressable memory disclosed by Li, with the classifier disclosed by the combined teachings of Le Gouriellec and Agrawal. The motivation for this combination is to perform classification and look ups.

Regarding claim 26, Le Gouriellec discloses a control pipe (shown in fig 1 and Para 0025, node queues along the LSP pipe).

wherein control pipe employs a token bucket model (Para 0032, token bucket meter) to measure and check the traffic transmission rate profile of the received packet (Para 0032, the meter check the traffic flow properties against traffic profiles), the token bucket model facilitates in controlling CAR packets (Para 0025 discusses committed rate traffic), input rate limiting (IRL) packets and output rate limiting (ORL) packets (the specification does not define IRL and ORL packets, so these terms are interpreted within its broadest scope as simply packets),

wherein IRL and ORL in profile packets receive best effort service (Para 0037, all traffic above the CR but below CR +ER is marked to be dropped in case of congestion) and wherein IRL and ORL out of profile packets are dropped (Para 0038, traffic over CR + ER is discarded).

The combined teachings of Le Gouriellec and Agrawal do not specifically disclose wherein said classifying of the packet is performed by a control pipe via a

content addressable memory and wherein the CAM comprises a multi bank ternary to provide packet classification.

Li discloses classification of a packet being performed via a content addressable memory (Para 0074).

wherein the CAM comprises a multi-bank ternary CAM (T-CAM) to provide packet classification **(It would have been obvious to one of the ordinary skill in the art that the CAM disclosed by the combined teachings of Le Gouriellec, Agrawal and Li is not limited to a basic CAM, and may be specified such as that of a multi-bank ternary CAM depending on a designer's preference)**

It would have been obvious to one of the ordinary skill in the art at the time of the invention to associate the content addressable memory disclosed by Li, with the classifier disclosed by the combined teachings of Le Gouriellec and Agrawal. The motivation for this combination is to perform classification and look ups.

7. Claims 11 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gouriellec et al. (US 2003/0112756) and Agrawal et al. (US 2003/0081546) as applied to the claims above, and further in view of Chen et al. (US 6226685), hereinafter referred to as Chen.

Regarding Claim 11. The combined teachings of Le Gouriellec and Agrawal do not specifically disclose wherein a separate multicast queue and a separate multicast threshold are defined for multicast packets, and wherein a multicast counter facilitates in tracking multicast packets.

Chen discloses wherein a separate multicast queue (**fig 3, 309**) and a separate multicast threshold (**Col 4, lines 47-50 when the counter value is expired**) are defined for multicast packets, and wherein a multicast counter (**Col 4 lines 14-17, generate a counter value**) facilitates in tracking multicast packets.

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the invention of the combined teachings of Le Gouriellec as taught by Chen, since stated in the abstract that such a modification will improve the efficiency of BW utilization.

Regarding Claim 21, The combined teachings of Le Gouriellec and Agrawal do not specifically disclose wherein a separate multicast queue and a separate multicast threshold are defined for multicast packets, and wherein a multicast counter facilitates in tracking multicast packets.

Chen discloses wherein a separate multicast queue (**fig 3, 309**) and a separate multicast threshold (**Col 4, lines 47-50 when the counter value is expired**) are defined for multicast packets, and wherein a multicast counter (**Col 4 lines 14-17, generate a counter value**) facilitates in tracking multicast packets.

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the invention of the combined teachings of Le Gouriellec and Agrawal as taught by Chen, since stated in the abstract that such a modification will improve the efficiency of BW utilization.

8. Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gouriellec et al. (US 2003/0112756) and Chen et al. (US 6226685), hereinafter referred to as Chen and Agrawal et al. (US 2003/0081546), hereinafter referred to as Agrawal.

Regarding Claim 22. Le Gouriellec discloses classifying each received packet in an IP/Ethernet (**Para 0024 discusses Ethernet**) network into one of a plurality of quality of service (QoS) groups using information in a header of the packet (**Para 0031**).

measuring and checking a traffic rate profile of the received packet against a corresponding service level agreement (**Para 0032, meter checks traffic profiles..**).

marking the packet as one of an in profile packet and an out of profile packet (**page 3, Para 0032, identifies packets as in-profile or out of profile, and Para 0033, marker marks packet**).

for each profile packet pushing out queued non CAR packet if at least one of corresponding packet buffer memory and transmit queue is full (**Para 0039**).

queuing CAR packets into transmit queue memory (**Para 0041**).

For each out of profile packet, providing best effort service (**Para 0039, causing all marked packets to be dropped, where best effort service is defined as performing services where there is no guarantee, hence dropping the marked packets is equivalent to there being no guarantee, therefore dropping packets is equivalent to best effort services**).

Le Gouriellec does not specifically disclose for a multicast packet, measuring and checking a multicast traffic rate profile of the received multicast packet using a corresponding multicast counter, marking each multicast packet as one of an in profile

or out of profile packet, for each profile packet pushing out queued non CAR packet if at least one of corresponding packet buffer memory and transmit queue is full.

Chen discloses wherein a separate multicast queue (**fig 3, 309**) and a separate multicast threshold (**Col 4, lines 47-50 when the counter value is expired**) are defined for multicast packets, and wherein a multicast counter (**Col 4 lines 14-17, generate a counter value**).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the invention of Le Gouriellec as taught by Chen, since stated in the abstract that such a modification will improve the efficiency of BW utilization.

The combined teachings of Le Gouriellec and Chen do not specifically disclose without dropping the out of profile packet.

Agrawal discloses without dropping (**Para 0059 and 0064, where out of profile traffic is marked down in class, where the traffic may be marked down to a best effort class as seen in Para 0056. Also, given that traffic is out of profile, the data may be dropped or marked down according to Para 0064**) the out of profile packet (**Para 0057 notice the policer identifies out of profile packets**).

It would have been obvious to one of the ordinary skill in the art at the time of the invention was disclosed to modify the queuing mechanism as disclosed by the combined teachings of Le Gouriellec and Chen, as taught by Agrawal, since stated in para0001 that such a modification will assist in controlling the traffic congestion.

Regarding Claim 23. Le Gouriellec discloses dropping an out of profile packet (Para 0028, discarded), where the preceding claim addresses multicasting packets.

Regarding Claim 24. Le Gouriellec discloses marking and queuing an out of profile CAR packet as a non CAR packet (Para 0037).

Response to Arguments

9. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER P. GREY whose telephone number is (571)272-3160. The examiner can normally be reached on 10AM-7:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Moe Aung can be reached on (571)272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aung S. Moe/
Supervisory Patent Examiner, Art Unit 2616

/Christopher P Grey/
Examiner, Art Unit 2616